



Water-Data Report 2008

01408000 MANASQUAN RIVER AT SQUANKUM, NJ

MANASQUAN RIVER BASIN

LOCATION.--Lat 40°09'41", long 74°09'17" referenced to North American Datum of 1983, Howell Township, Monmouth County, NJ, Hydrologic Unit 02040301, on right bank 50 ft upstream from northbound bridge on County Highway 547 (Lakewood Farmingdale Road) in Squankum, and 0.4 mi downstream from Marsh Bog Brook.

DRAINAGE AREA.--44.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1931 to current year. Monthly discharge only for July 1931, published in WSP 1302.

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 18.82 ft above NGVD of 1929. Prior to Aug 13, 1940, water stage recorder at site 80 ft upstream at same datum.

REMARKS.--Records good, except for estimated daily discharges, which are considered fair. Several measurements of water temperature were made during the year. Since 1990, 3.18 mi² controlled by Manasquan Reservoir located on Timber Swamp Brook (see 01407965). Satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb 13	2345	*490	*5.40

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[*e*, estimated]

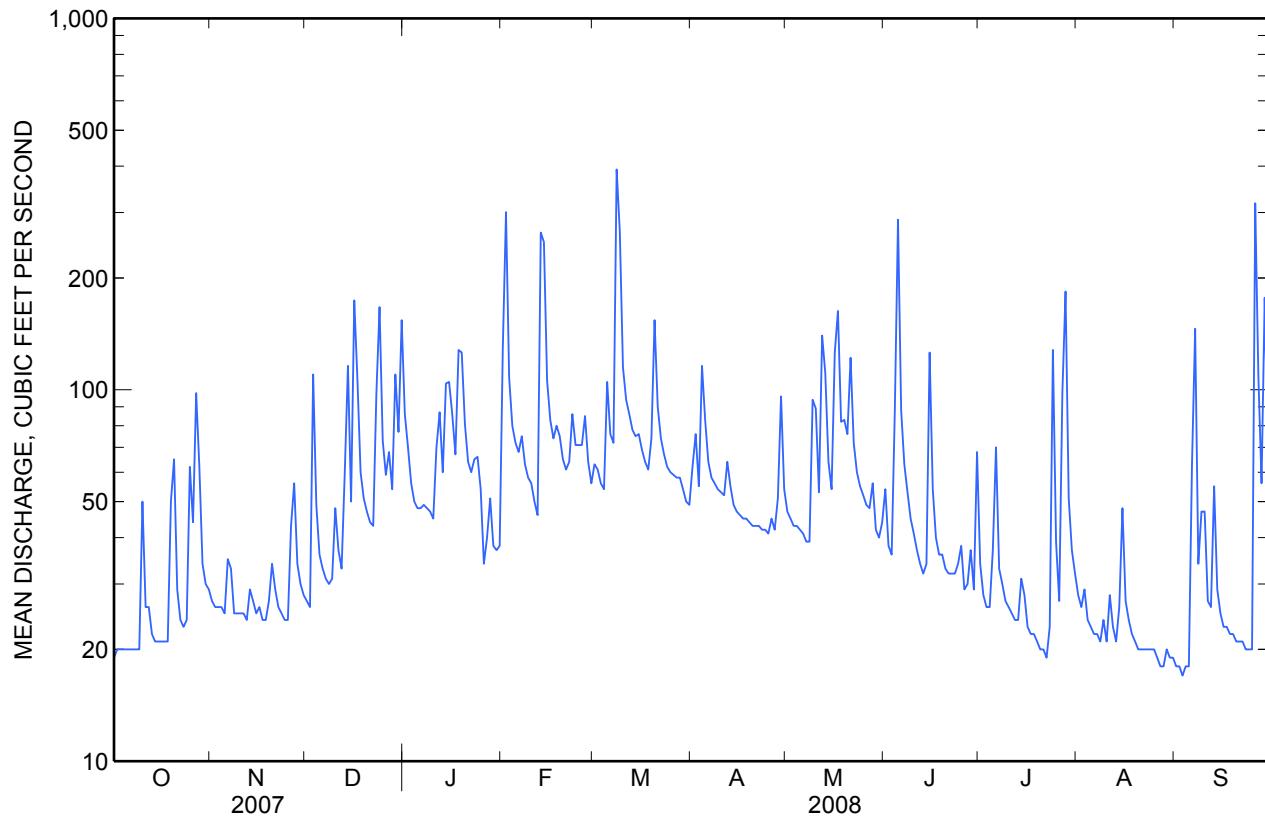
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	19	27	27	86	e130	63	62	47	54	34	28	18
2	20	26	26	70	301	61	76	45	38	28	26	18
3	20	26	110	56	108	56	55	43	36	26	29	17
4	20	26	49	50	80	54	116	43	88	26	24	18
5	20	25	36	48	72	105	83	42	287	37	23	18
6	20	35	33	48	68	76	64	41	88	70	22	63
7	20	33	31	49	75	72	58	39	63	33	22	146
8	20	25	30	48	63	392	56	39	53	30	21	34
9	20	25	31	47	58	267	54	94	45	27	24	47
10	50	25	48	45	56	115	53	89	41	26	21	47
11	26	25	37	70	50	94	52	53	37	25	28	27
12	26	24	33	87	46	86	64	140	34	24	23	26
13	22	29	60	60	265	78	55	111	32	24	21	55
14	21	27	116	104	250	75	49	64	34	31	26	29
15	21	25	50	105	106	76	47	54	126	28	48	25
16	21	26	174	86	83	69	46	126	54	23	27	23
17	21	24	107	67	74	64	45	163	40	22	24	23
18	21	24	60	128	80	61	45	82	36	22	22	
19	50	27	51	126	75	74	44	83	36	21	21	22
20	65	34	47	81	65	154	43	76	33	20	20	21
21	29	29	44	e64	61	90	43	122	32	20	20	21
22	24	26	43	e60	64	74	43	72	32	19	20	21
23	23	25	98	e65	86	67	42	60	32	23	20	20
24	24	24	167	e66	71	62	42	55	34	128	20	20
25	62	24	73	e54	71	60	41	52	38	39	20	20
26	44	43	59	e34	71	59	45	49	29	27	19	318
27	98	56	68	e40	85	58	42	48	30	98	18	109
28	62	34	54	e51	64	58	51	56	37	184	18	56
29	34	30	110	e38	56	54	96	42	29	51	20	177
30	30	28	77	e37	---	50	54	40	68	37	19	64
31	29	---	154	e38	---	49	---	44	---	32	19	---
Total	982	857	2,103	2,008	2,734	2,773	1,666	2,114	1,616	1,235	713	1,525
Mean	31.7	28.6	67.8	64.8	94.3	89.5	55.5	68.2	53.9	39.8	23.0	50.8
Max	98	56	174	128	301	392	116	163	287	184	48	318
Min	19	24	26	34	46	49	41	39	29	19	18	17
Cfsm	0.72	0.65	1.54	1.47	2.14	2.03	1.26	1.55	1.22	0.91	0.52	1.16
In.	0.83	0.72	1.78	1.70	2.31	2.34	1.41	1.79	1.37	1.04	0.60	1.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	52.2	69.0	81.0	89.2	94.4	111	99.7	77.9	58.0	51.0	49.1	51.2
Max	183	231	212	218	214	221	218	204	144	200	108	183
(WY) (2006)	(2006)	(1978)	(1978)	(1979)	(1979)	(1984)	(1983)	(1998)	(2003)	(1938)	(1948)	(1938)
Min	20.9	19.2	24.3	30.7	27.7	47.2	38.6	38.8	26.6	17.9	16.7	16.7
(WY) (2002)	(2002)	(2002)	(1981)	(2002)	(1985)	(1995)	(1995)	(1955)	(1957)	(2002)	(1932)	(1932)

01408000 MANASQUAN RIVER AT SQUANKUM, NJ—Continued**SUMMARY STATISTICS**

	Calendar Year 2007	Water Year 2008			Water Years 1932 - 2008	
Annual total	25,843		20,326			
Annual mean	70.8		55.5		73.5	
Highest annual mean					131	1978
Lowest annual mean					31.9	2002
Highest daily mean	1,250	Apr 16	392	Mar 8	1,720	Nov 8, 1977
Lowest daily mean	19	Sep 30	17	Sep 3	10	Dec 5, 1998
Annual seven-day minimum	20	Sep 28	18	Aug 30	11	Aug 13, 2002
Maximum peak flow			490	Feb 13	2,940	Sep 21, 1938
Maximum peak stage				5.40	Feb 13	12.45
Instantaneous low flow			17	Sep 3-5		8.1 Aug 6, 1981
Annual runoff (cfsm)	1.61		1.26			1.67
Annual runoff (inches)	21.85		17.18			22.71
10 percent exceeds	118		100			129
50 percent exceeds	49		44			54
90 percent exceeds	24		21			26



01408000 MANASQUAN RIVER AT SQUANKUM, NJ—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1963-81, 1991 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1969 to September 1974.

pH: July 1969 to September 1974.

WATER TEMPERATURE: July 1969 to September 1974.

DISSOLVED OXYGEN: August 1969 to September 1974.

REMARKS.--Cooperative Network Site Descriptor: Watershed Integrator, New Jersey Department of Environmental Protection Watershed Management Area 12.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, suspended residue, ammonia-plus-organic nitrogen in bed sediment, and phosphorus in bed sediment were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 1 of 3

[Remark codes: <, less than; E, estimated.]

Date	Time	Turbidity Instan- taneous dis- charge, corrctd ft3/s (00061)	UV white light, det ang 90+/-30	UV absorb- ance, 254 nm, wat flt	UV absorb- ance, 280 nm, wat flt	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, μS/cm 25 degC (00095)	Temper- ature, wat unf 25 degC (00020)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO3 (00900)
Nov														
13...	1030	29	12	.060	.049	762	9.0	80	7.3	264	10.0	9.8	87	
Feb														
20...	0900	65	6.9	.054	.042	767	11.3	86	7.3	314	-2.0	4.1	68	
May														
28...	0900	71	14	.073	.056	768	7.8	81	7.2	249	17.0	16.0	71	
Aug														
13...	0800	21	11	.049	.037	759	8.6	90	7.5	276	23.0	17.4	89	

01408000 MANASQUAN RIVER AT SQUANKUM, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 3

[Remark codes: <, less than; E, estimated.]

Date	ANC, wat unf								Residue water, filtrd, sum of constituents	Residue on evap.	Residue total non- filter- able,	Ammonia + org-N, water, filtrd, mg/L as N (00623)	
	Calcium water, filtrd, mg/L (00915)	Magnes- ium, water, filtrd, mg/L (00925)	Potas- sium, water, filtrd, mg/L (00935)	Sodium, water, filtrd, mg/L (00930)	CaCO ₃ mg/L as (90410)	Chlor- ide, end pt, lab, mg/L as (00940)	Fluor- ide, water, filtrd, mg/L (00950)	Silica, water, filtrd, mg/L as SiO ₂ (00955)	Sulfate water, filtrd, mg/L (00945)	180degC wat flt mg/L (70301)	(70300)	(00530)	
Nov 13...	29.6	3.24	3.06	11.4	46	26.0	.15	14.4	31.0	147	157	3	E.10
Feb 20...	21.1	3.69	2.76	29.5	22	54.1	E.11	13.9	32.1	E173	173	3	E.13
May 28...	22.9	3.36	2.90	13.8	30	31.9	.17	15.2	29.2	E139	164	6	.19
Aug 13...	30.5	3.24	3.19	13.8	50	30.7	.18	15.0	30.3	E158	185	3	.26

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 3

[Remark codes: <, less than; E, estimated.]

Date	Ortho- phosphate, water, filtrd, mg/L as P (00671)								Total carbon, suspnd sediment	Inor- ganic carbon, suspnd sediment	Organic carbon, suspnd sediment	Organic carbon, water, filtrd, mg/L (01020)	
	Nitrate + nitrite water, filtrd, mg/L as N (00608)	Partic- ulate nitro- gen, susp., water, filtrd, mg/L (49570)	Total nitro- gen, water, filtrd, mg/L (00602)	Total nitro- gen, water, unfiltrd mg/L (00600)	Phos- phorus, water, filtrd, mg/L as P (00666)	Phos- phorus, water, unfiltrd mg/L as P (00665)	Total carbon, total, mg/L (00694)	(00688)	(00689)	(00688)	(00689)		
Nov 13...	.016	.18	.07	E.29	E.35	<.010	.008	.046	.5	<.04	.5	1.7	22
Feb 20...	.039	.51	E.03	E.64	E.67	<.010	E.006	.033	.4	<.04	.4	1.7	24
May 28...	.037	.39	.09	.57	.66	E.006	E.006	.057	.8	<.04	.8	2.3	28
Aug 13...	E.007	.22	E.03	.48	E.51	<.010	.008	.037	.4	<.04	.4	1.8	26

01408000 MANASQUAN RIVER AT SQUANKUM, NJ—Continued

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 1 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

		Ammonia		Phos- phorus,		Inor- ganic		Chrom-		Copper,		Iron, bed		Lead, bed		
Date	Time	pH	+ org-N,	bed sed	bed sedimnt	Total carbon,	carbon, bed	Arsenic bed	Cadmium bed	ium, bed	Cobalt bed	Copper, bed	Iron, bed	Lead, bed		
		bed	bed sed	sedimnt	total, mg/kg	total, mg/kg	bed	sedimnt	sedimnt	bed	bed	bed	bed	bed		
		std	units	(70310)	as N	(00626)	(00668)	(00693)	(00686)	(64847)	(01028)	(01029)	(01038)	(01043)	(01170)	(01052)
Aug 13...	0800	7.42	120	9,800	2.4	<.2	9.3	.530	36	4.4	<6	63,000	10			

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

	Mangan-ese, bed sedimnt recover -able, ug/g (01053)	Mercury bed sedimnt recover -able, ug/g (71921)	Nickel, bed sedimnt recover -able, ug/g (01068)	Selenium, bed sedimnt recover -able, ug/g (64848)	Zinc, bed sedimnt recover -able, ug/g (01093)	1,2-Dimethyl-naphthalene, ug/kg (49403)	1,6-Dimethyl-naphthalene, ug/kg (49404)	1Methyl-9H-fluorophenanthrene, ug/kg (49398)	1-Methyl-pyrene, bed sed bed sed wsv nat ug/kg (49410)	1-Methyl-naphthalene, ug/kg (49388)	236Tri-methyl-naphthalene, ug/kg (49405)	2,6-Dimethyl-naphthalene, ug/kg (49406)	2-Ethyl-naphthalene bed sed ug/kg (49948)
Date													
Aug 13...	89	<.007	13.0	.1	130	<50	<50	<50	<50	<50	<50	M	<50

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

[REDACTED]													
Date	2-Methyl-anthracene, phenanthrene, bed sed <2 mm, bs <2mm ug/kg (49435)	4H-Cyclopenta-[def]-phenanthrene, bed sed <2 mm, threne, wsv nat ug/kg (49411)	9H-Fluorophenanthrene, bed sed <2 mm, wsv nat ug/kg (49399)	Ace-naphthalene, bed sed <2 mm, wsv nat ug/kg (49429)	Ace-naphthylene, bed sed <2 mm, wsv nat ug/kg (49428)	Anthracene, wsv nat field, ug/kg (49434)	Benzene, [a]-anthracene, bed sed <2 mm, wsv nat ug/kg (49436)	Benzene, [a]-pyrene, bed sed <2 mm, wsv nat ug/kg (49389)	Benzene, [b]-fluoranthene, bed sed <2 mm, wsv nat ug/kg (49458)	Benzene, [ghi]-perylanthene, bed sed <2 mm, wsv nat ug/kg (49408)	Benzene, [k]-anthene, bed sed <2 mm, wsv nat ug/kg (49397)	Chrysene, bed sed <2 mm, wsv nat ug/kg (49450)	Dibenzanthene, bed sed <2 mm, wsv nat ug/kg (49461)
Aug 13...	<50	<50	<50	M	E2	E3	E4	E8	E11	E13	E4	E6	<50

01408000 MANASQUAN RIVER AT SQUANKUM, NJ—Continued
**WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 4 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Fluor-anthene <2 mm wsv nat field, ug/kg (49466)	Indeno-[1,2,- 3-cd]- bed sed bed sed wsv nat field, ug/kg (49390)	Iso-phorone bed sed <2 mm, wsv nat field, ug/kg (49400)	Naphth-alene, bed sed <2 mm wsv nat field, ug/kg (49402)	p-Cresol, PCBs, bed sed wsv nat sedimnt ug/kg (39519)	Phenan-threne, bed sed <2 mm, wsv nat field, ug/kg (49451)	Phenan-threne, bed sed <2 mm, wsv nat field, ug/kg (49409)	Pyrene, bed sed <2 mm, wsv nat field, ug/kg (49393)	Bed ment, dry svd sve dia percent <62.5um (80164)
Aug 13...	E12	E10	<50	<50	<5.00	<50	E4	<50	E11 .4